

|                  |                             |                  |                              |                                     |
|------------------|-----------------------------|------------------|------------------------------|-------------------------------------|
| Customer-No.     | <b>416064</b>               | delivery date    | <b>17.12.2015</b>            | 51/2015                             |
| Customer         | <b>Claudius Peters</b>      | delay penalty    |                              |                                     |
| Address          | <b>DE-21614 Buxtehude</b>   | final inspection |                              |                                     |
| Order-No.        | <b>02-69348</b>             | completion date  | <b>15.12.2015</b>            |                                     |
| Com.-No.         | <b>1/211928</b>             | manufacturing    | <b>12.11.2015/01.12.2015</b> |                                     |
| Project          | <b>KKS-Nr.: 210 AC03</b>    | AV               | <b>03.11.2015</b>            | <b>(1)</b>                          |
| Delivery address | <b>AKF Siemens Nordpack</b> | EK               | <b>02.11.2015</b>            | <b>(1)</b>                          |
|                  | <b>DE-22113 Hamburg</b>     | TB 2             | <b>02.11.2015</b>            |                                     |
|                  | Customer                    | Konstr.          | <b>30.10.2015</b>            | <b>(1)</b>                          |
|                  | <b>Mr. Peters</b>           | TB 1             | <b>29.10.2015</b>            | <b>(1)</b>                          |
|                  | Quotation                   | date of order    | <b>13.10.2015</b>            | <b>1200/19</b>                      |
| In charge        |                             | Order            | <b>Karin Schaper-111</b>     |                                     |
| Fan type         | <b>MXE 080-002230-00</b>    | P/n No.          | <b>8</b>                     | Position of discharge <b>GL 360</b> |
|                  |                             |                  |                              | Position of IO at degree            |

**Design / Operating data (2)**

| Operating mode                      | pressure operation |             |              |              |                     |
|-------------------------------------|--------------------|-------------|--------------|--------------|---------------------|
|                                     | Handled gas        | Rated data  | air          |              | Operation point(s)  |
| Calculated data                     |                    |             | OP1          |              |                     |
| Characteristic curveno.             | <b>2</b>           |             |              |              |                     |
| Inlet temperature                   | $\vartheta$        |             | <b>20</b>    | <b>40</b>    | °C                  |
| Altitude                            | h                  |             |              |              | m a.s.l.            |
| Abs. pressure                       | Pa                 |             | <b>10132</b> | <b>10133</b> | daPa                |
| Density, atm.                       | $\rho_a$           |             | <b>1,205</b> | <b>1,128</b> | kg/m <sup>3</sup>   |
| Density, inlet                      | $\rho_1$           |             | <b>1,205</b> | <b>1,128</b> | kg/m <sup>3</sup>   |
| Inlet volume                        | V1                 |             | <b>22,4</b>  | <b>16,3</b>  | m <sup>3</sup> /min |
| Total pressure increase             | $\Delta p_{t2}$    |             | <b>800</b>   | <b>759</b>   | daPa                |
|                                     | $\Delta p_{t1}$    |             |              |              | daPa                |
| Pressure loss, discharge            | pd2                |             | <b>41</b>    | <b>21</b>    | daPa                |
| Pressure loss, inlet                | pd1                |             |              | <b>6</b>     | daPa                |
| Static pressure, discharge          | pst2               |             | <b>759</b>   | <b>745</b>   | daPa                |
| Static pressure, inlet              | pst1               |             |              |              | daPa                |
| Required power-shaft                | Pw2                |             | <b>4,93</b>  | <b>3,83</b>  | kW                  |
| Required power-shaft                | Pw1                |             |              |              | kW                  |
| Recomm.power,motor                  | PM                 |             | <b>7,50</b>  | <b>7,50</b>  | kW                  |
| E-motor speed                       | nM                 | <b>2950</b> |              |              | rpm                 |
| Impeller speed                      | nL                 | <b>2915</b> | <b>2915</b>  | <b>2915</b>  | rpm                 |
| Class of accuracy acc. to DIN 24166 |                    | <b>2</b>    | <b>2</b>     | <b>2</b>     |                     |

**Connections**

| Connections       |             |                       | Identification data         |                         |
|-------------------|-------------|-----------------------|-----------------------------|-------------------------|
| Inlet             | DN          | <b>180</b>            | Product catalogue           | <b>L-2012</b>           |
| Flange acc. DIN   | Standard    | <b>DIN 24154 R2</b>   | Dimension sheet             |                         |
| Connection design |             | <b>flange mounted</b> | Revised dimension sheet     |                         |
|                   | Dimension   | f= <b>182</b> f1=     | General arrangement drawing | <b>UG00000039407-00</b> |
| Discharge         | DN or B1/B2 | <b>112x 125</b>       | Customer drawing            |                         |
| Flange acc. DIN   | Standard    | <b>DIN 24193 R3</b>   | Parts list - fan            | <b>MXE000</b>           |
| Connection design |             | <b>flange mounted</b> | Pedestal drawing            | <b>KME328152</b>        |
|                   | Dimension   | a1= <b>490</b> a2=    | Impeller drawing            | <b>LRE328152</b>        |
|                   | Dimension   | d1=                   | Impeller design             | <b>DN1 SFV 1.0</b>      |

**E-motor data (4)**

| E-motor data (4)           |              |             | Start-up data |                         |                              |
|----------------------------|--------------|-------------|---------------|-------------------------|------------------------------|
| Power                      | <b>7,50</b>  |             | kW            | Moment of inertia       | <b>1,26</b> kgm <sup>2</sup> |
| Speed                      | <b>2950</b>  |             | rpm           | Fan load torque         | <b>16,15</b> Nm              |
| Voltage                    | <b>400D</b>  |             | V             | Rated motor torque (a)  | <b>24,00</b> Nm              |
| Frequency                  | <b>50</b>    |             | Hz            | Relation b:a            | <b>2,2</b> ---               |
| Protect.type/class of ins. | <b>IP55</b>  | <b>FB</b>   | ---           | Locked-rotor torque (b) | <b>52,80</b> Nm              |
| Frame size                 | <b>132S</b>  | <b>IMB3</b> | ---           | Start-up time           | <b>8,6</b> s                 |
| Explosive protection       | <b>no</b>    |             | ---           | Starting current        | <b>105,8</b> A               |
| Thermistors                | <b>3 pcs</b> | <b>IE2</b>  |               | Main voltage            | <b>400</b> V                 |
| VIK design                 | <b>no</b>    |             |               |                         |                              |
| Special design             |              |             |               |                         |                              |

**Start-up condition**

| Start-up condition      |                          |                            |
|-------------------------|--------------------------|----------------------------|
| Weight / Motor-No.      | <b>43,0</b>              | <b>UD1510/75345470-001</b> |
| Make / Type             | <b>Siemens</b>           | <b>1LE1001-1CA13-4AB4</b>  |
| Motor supply            | <b>supplied by Reitz</b> |                            |
| FC operation            | <b>no</b>                |                            |
| var.speed control range |                          |                            |

**Noise data (1)**

| Noise data (1)  |                 | LWAi2/ L WAI1   |        |
|---|-----------------|-----------------|--------|
| A-weighted total sound power level inlet/discharge                              |                 | <b>105 / 96</b> | dB (A) |
| A-weighted housing sound power level  | LWAa            | <b>87</b>       | dB (A) |
| A-weighted measuring surface sound pressure level                               | LPA             | <b>73</b>       | dB (A) |
| Correction value for A-weighting  | $\Delta L_{KA}$ | <b>6</b>        | dB (A) |
| Measuring surface dimension   | Ls              | <b>15</b>       | dB     |
| A-weighted free inlet resp. free discharge sound pressure level at 1 m distance | LPA5/ LPA6      | <b>88 / 96</b>  | dB (A) |

**Special design of fan**

|                                    |                      |            |
|------------------------------------|----------------------|------------|
| Design-Temperature                 | <b>-20°C up 80°C</b> |            |
| Sealing                            | <b>normal</b>        |            |
| Pressure-resistant and shock-proof | <b>no</b>            |            |
| Housing insulation                 | <b>none</b>          | <b>ID=</b> |
| Housing splitting                  | <b>no</b>            |            |
| Housing design type                |                      |            |
| Pedestal design type               | <b>1.1</b>           |            |

| Material   |                            | Surface finish   |                                  | microns  |                           |
|--|----------------------------|--|----------------------------------|--|---------------------------|
| Spiral housing                                       | 1.0038                     | <b>Impeller - coating</b>  |                                  |  |                           |
| Scroll   | 1.0038                     | - derusting  | <b>manual derusting</b>          |  |                           |
| Impeller   |                            | - primer   | RAL 7040 2K Deripox Grund        |  | 40                        |
| · Blades   | 1.0038                     | <b>Housing inside - coating</b>  |                                  |  |                           |
| · Main plate   | 1.0038                     | - derusting  | <b>manual derusting</b>          |  |                           |
| · Shroud   | 1.0038                     | - primer   | RAL 7040 2K Deripox Grund        |  | 40                        |
| Pedestal   | 1.0038                     | - intermediate coat  | -----                            |  |                           |
| Shaft  | %                          | - finish coat  | -----                            |  |                           |
|  |                            | <b>Housing outside - coating</b>   |                                  |  |                           |
|  |                            | - derusting  | <b>manual derusting</b>          |  |                           |
| Stress relief heat treatment impeller / sandblasting | no                         | - primer   | RAL 7040 2K Deripox Grund        |  | 40                        |
|  |                            | - intermediate coat  | -----                            |  |                           |
|  |                            | - finish coat  | RAL 5003                         |  | 40                        |
|  |                            | Colour code  |                                  |  |                           |
| <b>Surface and weights w/o equipment</b>             |                            | <b>Pedestal inside - coating</b>   |                                  |  |                           |
| Housing inside/outside                               | 2,07                       | 2,30   | m <sup>2</sup>                   | - derusting                                      | <b>manual derusting</b>   |
| total  | 4,37                       |  | m <sup>2</sup>                   | - primer   | RAL 7040 2K Deripox Grund |
| Insulation   | 1,93                       |  | m <sup>2</sup>                   | - intermediate coat                              | -----                     |
| Impeller total                                       | 1,93                       |  | m <sup>2</sup>                   | - finish coat                                    | RAL 5003                  |
| Pedestal inside/outside                              | 0,77                       | 0,80   | m <sup>2</sup>                   | <b>Pedestal outside - coating</b>                |                           |
| total  | 1,57                       |  | m <sup>2</sup>                   | - derusting                                      | <b>manual derusting</b>   |
| Fan outside  | 7,87                       |  | m <sup>2</sup>                   | - primer   | RAL 7040 2K Deripox Grund |
| Impeller - weight                                    | 25,2                       |  | kg                               | - intermediate coat                              | -----                     |
| Weight without motor                                 | 122,3                      |  | kg                               | - finish coat                                    | RAL 5003                  |
| <b>Special techn. features (3) and equipment</b>     |                            | Motor coat   |                                  | RAL 5003   |                           |
| shaft seal REW101-100060-25                          | RWN0401-02                 |  |                                  |  |                           |
| anti-vibration mount (4)                             | SPZ420-050045, NR Shore 55 |  |                                  |  |                           |
| mounting plate (4)                                   | MPZ400-000050, galv.steel  |  | <b>Bearing I= 8</b>              |  |                           |
| foundation bolts                                     | M12x40 acc.drawg. ISO 4018 |  | Single bearing hous.             | N-end  |                           |
| flex.connection at dis. (1)                          | K1, -90°C, 0139            |  |                                  | D-end  |                           |
| transition piece at dis. (1)                         | 112x 125-0139, L: 180      |  | Anti-friction bearing            | N-end  |                           |
| filter inlet RFF113-018018                           | 180, horizontal, S235JRG2  |  |                                  | D-end  |                           |
| U-tube manometer                                     |                            |  | Taper                            | N-end  |                           |
| speed monitoring                                     | RTI0121-01                 |  |                                  | D-end  |                           |
|  |                            |  | Fix ring                         |  |                           |
|  |                            |  | Fixed bearing position           |  |                           |
|  |                            |  | Shaft                            |  |                           |
|  |                            |  | <b>Special design of bearing</b> |  |                           |
|  |                            |  |                                  |  |                           |
|  |                            |  | <b>V-belt drive</b>              |  |                           |
|  |                            |  | Pulley - fan                     |  | mm                        |
|  |                            |  | Finish bore                      |  | mm                        |
|  |                            |  | Taper no.                        |  | --                        |
|  |                            |  | Pulley - motor                   |  | mm                        |
|  |                            |  | Finish bore                      |  |                           |
|  |                            |  | Taper no.                        |  | --                        |
|  |                            |  | Design of belts                  |  | --                        |
|  |                            |  | Length of belts                  |  | mm                        |
|  |                            |  | Number of belts                  |  | --                        |
| <b>Labels and plates</b> German/English/             |                            | <b>Reitz</b>   |                                  | <b>Special design of V-belt drive</b>            |                           |
| <b>Customer's type code</b>                          |                            |  |                                  |  |                           |
| <b>Packing</b> without packing                       |                            |  |                                  |  |                           |
|  |                            | <b>Coupling</b>  |                                  |  |                           |
| <b>Shipment</b> CPT Buxtehude - including packing    |                            | Make   |                                  |  | --                        |
|  |                            | Type   |                                  |  | --                        |
| <b>Marking</b> see text                              |                            | Size   |                                  |  | --                        |
| <b>Shipment marks</b> see text                       |                            | Finish bore - shaft  |                                  |  | mm                        |
|  |                            | Finish bore - motor  |                                  |  |                           |
|  |                            | <b>Special design of coupling</b>  |                                  |  |                           |
|  |                            |  |                                  |  |                           |
| <b>Remarks</b>                                       |                            |  |                                  |  |                           |
| <b>(1) Sound data:</b>                               |                            | Acc. DIN 45635 part 1 and 38 - free field condition.<br>A-weighted sound pressure level LPA only with connected duct-work<br>condition without consideration of motor noise. |                                  | at inlet and discharge under free field          |                           |
| <b>(2) Tolerance:</b>                                |                            | Tolerance with respect to class of accuracy in accordance DIN 24166<br>eta >= 0,9 x etamax. Coordination for class of accuracy (G-KL) see                                    |                                  | in range of efficiency<br>product specification. |                           |
| <b>(3) Shaft seal:</b>                               |                            | Standard seal is not absolutely tight!   |                                  |  |                           |
| <b>(4) Motor:</b>                                    |                            | Recommended E-motor is calculated for start-up with closed damper<br>Please observe start-up conditions of our catalogue/techn. sheets.                                      |                                  | and D.O.L. starting.                             |                           |
| <b>Test remark</b>                                   |                            |  |                                  |  |                           |
| Purchase   |                            | Planning engineering   |                                  | Inspection / Test                                |                           |
| Date   |                            |  |                                  |  |                           |
| Name   |                            |  |                                  | Consignment control                              |                           |